The Monadology

Gottfried Wilhelm Leibniz

1714

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Translated with an Introduction

INTRODUCTION

"The present is pregnant with the future."
— Leibniz, The Monadology, §22

I. THE MAN AND THE MOMENT

Gottfried Wilhelm Leibniz was born in Leipzig in 1646, two years before the Peace of Westphalia ended the Thirty Years' War. He died in Hanover in 1716, having watched a continent rebuild itself from ruin and having contributed, in no small measure, to the intellectual architecture of the world that replaced the one destroyed. Between those two dates he produced a body of work so broad that no single discipline has ever been able to claim him: he was a mathematician who invented the calculus independently of Newton; a logician who anticipated the formal methods that would not be codified for another two centuries; a diplomat, jurist, historian, engineer, and theologian. He designed a calculating machine. He proposed an ecumenical reconciliation between the Catholic and Protestant churches. He administered the library at Wolfenbüttel. He corresponded with virtually every significant thinker in Europe. He did most of this simultaneously.

The breadth is not incidental. It follows directly from the core of his philosophy, which held that reality is a single, rationally ordered whole in which every part expresses every other part. A thinker who genuinely believed that claim could not, in good conscience, confine himself to one domain. The specialization that defines modern intellectual life would have struck Leibniz as a kind of epistemic cowardice, or at least as a failure of nerve. He was not a polymath in the Renaissance sense of a man who collected disciplines as one collects objects. He was a polymath because his metaphysics demanded it.

The Monadology was written in 1714, two years before his death, during a final visit to Vienna. He composed it in French, the diplomatic and philosophical lingua franca of the age, as a summary of his system for Prince Eugene of Savoy, the military commander whose victories over the Ottomans had recently reshaped the map of Europe. The Prince, a man of genuine scientific culture despite his

martial reputation, received the manuscript and locked it in a box like a relic, showing it to selected visitors but refusing to let it circulate. It was not published in the original French until 1840, more than a century after its composition. What we have, then, is a document written by an old man for a soldier, summarizing a lifetime of thought in ninety numbered paragraphs, and withheld from the reading public for four generations.

That delay matters. The Monadology entered philosophical circulation not as a living intervention in an ongoing debate but as an artifact, a discovery, something excavated. By 1840, Kant had come and gone. German Idealism had risen on partly Leibnizian foundations and transformed them almost beyond recognition. The document arrived already historicized, already absorbed into a tradition that had used it without quite having read it. We are still, in some respects, reading it for the first time.

II. THE PROBLEM LEIBNIZ WAS SOLVING

To understand the Monadology, it helps to understand what was broken when Leibniz sat down to fix it. The seventeenth century had inherited two things from the late medieval world: an Aristotelian physics of qualities, forms, and final causes, and a set of increasingly inconvenient observations about how matter actually behaves. Galileo, Kepler, and Descartes had shown that nature, at least in its mechanical operations, could be described by mathematics. The implications were significant and disturbing in roughly equal measure.

Descartes had tried to resolve the situation by proposing a strict division of reality into two substances: extended matter, res extensa, which operates according to purely mechanical laws, and thinking substance, res cogitans, which does not. The division was clean. It was also fatal. If mind and matter are categorically distinct, with nothing in common and no shared causal mechanism, how do they interact? How does a decision to raise my hand produce, in fact, the raising of my hand? Descartes proposed that the pineal gland was the seat of their interaction, which satisfied almost no one and which subsequent anatomy did not support. His followers divided into two camps: the Occasionalists, who held that every apparent interaction between mind and matter requires God to intervene as a direct cause, and the Spinozists, who resolved the dualism by collapsing it into a single substance with two attributes. Both solutions were available to

Leibniz. He found them both unacceptable.

His objection to Occasionalism was that it made God into a cosmic repairman, perpetually patching a creation that could not sustain itself. His objection to Spinoza was more fundamental. If there is only one substance, then individual things, including individual persons, are modes or modifications of that substance, not genuinely real in themselves. The consequence Leibniz drew was that Spinoza's system abolished the individuality of created beings. It was, in a precise sense, the annihilation of the creature.

At the same time, Leibniz had his own difficulties with the mechanist program. Pure mechanism, the picture of reality as matter in motion governed by mathematical laws, could in principle account for the behavior of billiard balls and planets. It could not account for perception. In the famous thought experiment of section 17 of the Monadology, he asks us to imagine a machine scaled up to the size of a mill, so that we could walk around inside it and inspect its workings. We would find gears and levers and surfaces pressing against surfaces. We would not find thought. This is the observation that later philosophers sometimes call the explanatory gap, and Leibniz identified it with unusual precision for a man writing before neuroscience existed as a field.

The Monadology is Leibniz's answer to all of this: an attempt to preserve the reality and individuality of created things, to explain their apparent interaction without making God an emergency measure, and to account for the existence of mind in a world that mechanism seemed to have exhausted.

III. MONADS

The central concept is simple to state and takes a lifetime to absorb. A monad is a simple, partless, immaterial substance. It is the ultimate constituent of reality, what Leibniz calls the true atom of nature. Since it has no parts, it cannot be broken; since it cannot be broken, it cannot be destroyed by natural means; since it cannot be destroyed, it is, in the strict sense, indestructible. The only way a monad can begin or end is by the direct action of God, through creation or annihilation.

Each monad is also absolutely unique. No two monads share exactly the same properties. This is Leibniz's Principle of the Identity of Indiscernibles, and it has a corollary that is even more striking: no

external cause can affect the interior of a monad. Monads, he writes, have no windows. What happens inside a monad happens because of the monad's own internal principle of change, not because something from outside entered and rearranged it. The monad is, in this sense, entirely self-contained.

This raises an obvious problem. If monads cannot interact, how do we explain the fact that the world appears to be full of things affecting other things? A stone falls and the water moves. I decide to speak and words come out. The answer Leibniz gives is one of the most audacious proposals in the history of philosophy. The apparent interaction between monads is not causal but representational. Each monad contains, in its own perceptions, a representation of the entire universe from its own point of view. The stone and the water do not cause each other's states. They each express the same universe, from different perspectives, and those expressions happen to correspond because God, at the creation, established a perfect harmony among all monads such that their internal sequences would unfold in perpetual agreement. This is the doctrine of pre-established harmony.

The analogy Leibniz offers is two clocks set to the same time and left to run independently. They will remain synchronized not because they influence each other but because they were built to the same specification and set running at the same moment. The universe is a set of infinitely many such clocks, each keeping perfect time with all the others, none of them touching.

Every monad perceives the whole universe, but with varying degrees of clarity. Most perceptions are confused and indistinct, a kind of background noise. Higher degrees of distinctness correspond to higher orders of being: bare monads at the bottom, then animal souls with memory and sensation, then rational spirits capable of reflection and the knowledge of necessary truths. This hierarchy is not a ranking of importance so much as a taxonomy of perceptual resolution. Every monad mirrors the infinite; they differ in how much of it they can bring into focus.

IV. GOD, CONTINGENCY, AND THE BEST OF ALL POSSIBLE WORLDS

The architecture of the Monadology moves in two directions. It begins with the created monads, ascends to God as their necessary ground,

and then descends again to describe the world as it flows from God's creative act. The ascending movement is an argument for God's existence from the structure of contingent things. The descending movement is an account of why this particular world, rather than any other possible world, is the one that exists.

The argument for God's existence runs through the Principle of Sufficient Reason, one of the two fundamental principles Leibniz identifies as the foundation of all reasoning. The principle holds that nothing happens without a reason why it is so rather than otherwise. Applied to the whole series of contingent facts, which stretches back infinitely in both time and causal complexity, the principle demands an explanation that does not itself belong to the series. If every contingent fact requires a reason, and that reason is itself contingent and requires a further reason, the chain cannot be self-grounding. There must be a necessary being whose existence requires no external justification, in whom essence and existence coincide. This being is what we call God.

God's understanding contains all possible worlds. His will, guided by the principle of the best, selects one for actualization. The selected world is the one with the maximum of variety consistent with the maximum of order, the richest possible diversity achieved through the simplest possible laws. This is the metaphysical basis of what Leibniz calls optimism, the claim that the actual world is the best possible world. Voltaire ridiculed this doctrine in Candide, and the ridicule has largely stuck. It is worth noting what the doctrine actually says, which is subtler than its caricature. Leibniz does not claim that everything in the world is good, or that suffering is illusory, or that improvement is impossible. He claims that no other possible world, taking all considerations into account across infinite time and infinite complexity, would be better than this one. The claim is about the whole, not about any part, and it is in principle unverifiable by any finite perspective. Whether that makes it admirable or empty is a question readers have disagreed about for three centuries.

V. THE LADDER OF SOULS

One of the more striking features of the Monadology, easy to overlook amid its metaphysical architecture, is its insistence on the continuity of nature. There are no sharp boundaries between the living and the non-living, between sensation and bare perception, between animal

cognition and human reason. Nature does not proceed by leaps. What we call death is a contraction, a retreat to a lower level of perceptual distinctness, not an ending. What we call generation is a development and expansion, not a beginning from nothing. The soul was always there, or something that deserves the name.

This has consequences for how we understand the difference between humans and other animals. Animals, on Leibniz's account, have genuine memory and genuine sensation. They can form empirical associations and respond to them with something that looks very much like reasoning. The dog that cowers at the sight of a stick that has beaten it before is not merely executing a mechanical reflex. It is representing, in its own confused way, a connection between past and present. What distinguishes rational souls is not the possession of inner states but the capacity to know necessary and eternal truths: the truths of logic and mathematics that hold in all possible worlds, not just this one. This capacity makes possible something animals cannot do, namely to think about their own thinking, to become aware of themselves as selves. Leibniz calls this aperception, and he insists on its distinction from mere perception, the distinction the Cartesians had failed to maintain.

The spirits, the rational souls, occupy a special place in the hierarchy not merely because their perceptions are more distinct but because they are capable of entering into a kind of society with God. They can know the system of the universe and imitate some portion of it through their own creative acts. Each rational spirit is, in Leibniz's formulation, a small divinity in its own domain. The community of all rational spirits constitutes what he calls the City of God, a moral world superimposed on the natural world, governed not by mechanical causes but by the principles of justice and grace.

VI. WHAT LEIBNIZ GOT RIGHT, AND WHAT HE DID NOT

The Monadology has had two kinds of readers. The first kind dismisses it as theology dressed as metaphysics, a baroque cosmology propped up by arguments that were questionable in 1714 and are archaic now. On this reading, the pre-established harmony is a deus ex machina in the most literal possible sense, God invoked to solve a problem that better physics would eventually dissolve. The second kind of reader finds in Leibniz a set of genuine insights that have continued to surface, in altered forms, across the subsequent three centuries of

inquiry into mind, physics, and the structure of reality.

Among those insights, several are worth naming. The distinction between perception and aperception anticipates the modern distinction between unconscious and conscious processing. The insistence that mentality cannot be explained by any arrangement of mechanical parts is the ancestor of the hard problem of consciousness, which has proven considerably more durable than its critics expected. The picture of every part of nature expressing the whole, of local states encoding global information, resonates with certain features of quantum mechanics and with the mathematics of holographic encoding. The principle of sufficient reason has had a long career in cosmological argument and in the philosophy of physics. None of this makes Leibniz right. It suggests that he was asking the right questions.

What he got wrong, or what has become untenable, is equally instructive. The optimism is the most obvious casualty, not because the world is obviously bad, but because the argument that grounds it requires a God whose attributes and decision procedure are specified in ways that contemporary philosophy of religion finds difficult to sustain. The occasionalist alternative he rejected has largely been replaced not by his own solution but by causal theories of mind that he did not anticipate and might have found puzzling. And the monadology as a physical theory, as an account of what matter ultimately is, was superseded by developments in physics that took a very different direction, though the question of what the ultimate constituents of nature are, and whether they have any intrinsic properties analogous to experience, remains genuinely open.

VII. THE HISTORY OF THIS TEXT

The textual history of the Monadology is unusually complicated for a document of its size. Leibniz composed the original in French in 1714. He made corrections on at least one manuscript copy. The work circulated in manuscript in philosophical circles but was not published in his lifetime. The first published version was a Latin translation by Hansche, which appeared in the Acta Eruditorum in 1721, five years after Leibniz’s death, under the title Principia Philosophiae. A German translation by Koehler appeared in the same year. The French original was not published until 1840, when Erdmann included it in his edition of Leibniz’s philosophical works.

The authoritative modern edition in French is that of Émile Boutroux, first published in 1881 and based on comparison of three surviving manuscripts. Boutroux's edition established the canonical paragraph numbering that all subsequent editions and translations have followed. It is the text on which the present translation is based. Boutroux was careful to preserve Leibniz's capitalization, which was deliberate and meaningful: terms like Monad, Perception, and Appetition carry capitals not merely as nouns but as technical markers of philosophical weight. That convention has been preserved here.

The Monadology has been translated into English several times. The most widely read versions are those of Robert Latta (1898), George Montgomery (1902), and more recently Nicholas Rescher and Jonathan Bennett. Each reflects the preoccupations of its moment. Latta's translation is Victorian in its amplitude, inserting explanatory glosses into the prose itself. Montgomery's is cleaner but occasionally loose. The more recent academic translations are accurate and annotated for scholarly use, which is their virtue and also their limitation: they presuppose a reader who is already inside the debate.

VIII. ON THIS TRANSLATION

The present translation proceeds from a single conviction: that the Monadology is not primarily a historical document but a philosophical one, and that a philosophical document deserves to be read as such, with the full pressure of its argument felt at each step.

This has several consequences for method. The first is a preference for plainness. Leibniz's French in the Monadology is not ornate. It is precise, compressed, and sometimes abrupt. The numbered-paragraph format strips away the discursive tissue that surrounds most philosophical writing and leaves the propositions nearly bare. The translation respects this. Where Leibniz is terse, the translation is terse. Where he is technical, the translation preserves the technical vocabulary without softening it into paraphrase. Monad remains monad. Appetition remains appetition. These are not words that yield to comfortable English equivalents, and the discomfort they produce in a reader encountering them for the first time is philosophically accurate: they designate concepts that require construction, not recognition.

The second consequence is a refusal to annotate within the text.

Boutroux's edition supplies extensive footnotes keyed to passages in the Theodicy and other Leibniz works. Those references are valuable for scholars tracing the development of specific arguments across Leibniz's corpus. They are not useful for a reader encountering the Monadology as a self-contained argument. This translation gives the text room to make its own case.

The third consequence concerns punctuation and rhythm. Leibniz's sentences are often long and heavily subordinated, the clauses stacked in ways that reflect the hierarchical structure of the argument itself. A temptation in translation is to break these into shorter, more digestible units. This translation resists that temptation where the structure of the sentence mirrors the structure of the thought. Leibniz's periodic sentences are doing philosophical work: they are holding multiple conditions in suspension until the main clause resolves them. To break them prematurely is to lose the felt experience of following the argument to its conclusion.

At the same time, this is not an exercise in literalism. Where the French idiom produces a construction that is merely awkward in English without being philosophically significant, the translation chooses English. The goal is a text that an intelligent reader with no prior knowledge of Leibniz can read from beginning to end and emerge from with a genuine understanding of what the Monadology argues and why the argument matters.

IX. HOW TO READ THE MONADOLOGY

A few practical remarks for the reader approaching this text for the first time.

The Monadology is dense but not long. It can be read in a single sitting of moderate length. It rewards slow reading more than fast reading: the numbered paragraphs encourage a pace at which each proposition can be held in mind before the next is encountered, and that is more or less the right pace.

The argument has a clear structure, which Boutroux's analytical notice at the front of his edition describes well. Paragraphs 1 through 36 develop the nature and hierarchy of monads. Paragraphs 37 through 48 ascend to God as the sufficient reason for the monadic universe. Paragraphs 49 through 90 descend again to describe the created world in light of its divine cause. The movement is circular in

the best sense: the ending illuminates the beginning, and a second reading will find things in the early paragraphs that were invisible the first time.

Leibniz wrote the Monadology for a brilliant reader who was not a professional philosopher. Prince Eugene was a military commander who read widely and thought carefully, but he was not expected to have worked through the Theodicy or the correspondence with Arnauld. That is still the right implied reader. The argument is complete in itself. It assumes intelligence and patience. It does not assume prior expertise.

Finally, it is worth reading the Monadology in a spirit of genuine inquiry rather than historical classification. The questions it raises, about the relationship between mind and matter, about why there is something rather than nothing, about what it means for any individual thing to be genuinely real, are not questions that have been settled since 1714. Leibniz's answers may or may not convince. The questions have not gone away.

— The Translator

THE MONADOLOGY

Gottfried Wilhelm Leibniz

1714

Principia philsophiæ seu theses in gratiam principis Eugenii conscriptæ

1. The Monad, of which we shall speak here, is nothing other than a simple substance that enters into compounds. Simple, that is to say, without parts.

2. There must be simple substances, since there are compounds. A compound is nothing other than an accumulation or aggregatum of simples.

3. Where there are no parts, there is no extension, no figure, no divisibility. These Monads are the true Atoms of Nature and, in a word, the elements of things.

4. There is no dissolution to fear. There is no conceivable way in which a simple substance could perish naturally.

5. By the same reasoning, there is no way a simple substance could begin naturally, since it cannot be formed by composition.

6. Monads can neither begin nor end except all at once. They can begin only by creation, and end only by annihilation. Compounds, by contrast, begin and end part by part.

7. There is no way to explain how a Monad could be altered or changed in its interior by any other creature. Nothing can be transposed within it, nor can any internal motion be conceived that could be excited, directed, increased, or diminished there, as happens in compounds where changes occur between parts. Monads have no windows through which anything could enter or leave. Accidents cannot detach themselves from substances and wander outside them, as the Scholastics once held with their sensible species. Neither substance nor accident can enter a Monad from without.

8. Monads must nonetheless have some qualities; otherwise they

would not even be beings. If simple substances did not differ in their qualities, there would be no way to perceive any change in things. What exists in a compound can only come from its simple components. Monads without qualities would be indistinguishable from one another, since they do not differ in quantity either. Assuming a plenum, each place would always receive, in motion, only the equivalent of what it had before, and one state of things would be indiscernible from another.

9. Each Monad must differ from every other. In nature there are never two beings perfectly alike, in which it is impossible to find some internal difference, or a difference founded on an intrinsic denomination.

10. I take it as granted that every created being is subject to change, and consequently the created Monad as well, and that this change is continual in each one.

11. It follows from what has been said that the natural changes of Monads come from an internal principle, since an external cause cannot influence their interior.

12. Beyond the principle of change, there must also be a particular detail of what changes, which produces, so to speak, the specification and variety of simple substances.

13. This detail must involve a multiplicity within unity, within the simple. Every natural change occurs by degrees: something changes, something remains. There must therefore be in the simple substance a plurality of affections and relations, even though it has no parts.

14. The passing state that involves and represents a multiplicity within unity, within the simple substance, is nothing other than what is called Perception. This must be distinguished from apperception, or consciousness, as will appear presently. It is here that the Cartesians failed gravely, having counted as nothing the perceptions of which one is not aware. This led them to believe that only minds were Monads, that there were no animal souls or other Entelechies, and that they confused, along with common people, a prolonged stupor with death in the strict sense, which

further confirmed poorly oriented minds in the opinion that souls are mortal.

15. The action of the internal principle that produces the change, the passage from one perception to another, can be called Appetition. The appetite cannot always fully reach the whole perception toward which it tends, but it always obtains something, arriving at new perceptions.

16. We ourselves experience multiplicity in the simple substance when we find that the slightest thought of which we are aware involves variety in its object. All who acknowledge that the soul is a simple substance must acknowledge this multiplicity in the Monad.

17. One is compelled to confess that Perception, and whatever depends on it, is inexplicable by mechanical means, that is, by figures and movements. Imagine a machine whose structure produces thought, feeling, perception. Enlarge it, maintaining the same proportions, so that one could enter it as one enters a mill. Visiting its interior, one would find only parts pushing against one another, and never anything to explain a perception. It is in the simple substance, not in the compound or the machine, that perception must be sought. This is also all that can be found in the simple substance: perceptions and their changes. These alone constitute all the internal actions of simple substances.

18. All created simple substances or Monads might be called Entelechies, for they have within them a certain perfection. There is a sufficiency that makes them sources of their own internal actions, incorporeal automata of a kind.

19. If we wish to call Soul everything that has perceptions and appetites in the general sense just explained, all simple substances or created Monads could be called Souls. But since sensation is something more than simple perception, I accept that the general names Monads and Entelechies suffice for simple substances that have only that, and that the name Souls be reserved for those whose perception is more distinct and accompanied by memory.

20. We experience in ourselves a state in which we remember

nothing and have no distinct perception, as when we fall into a faint or are overcome by deep dreamless sleep. In this state the soul is not perceptibly different from a simple Monad. But since this state is not lasting, and the soul emerges from it, the soul is something more.

21. It does not follow that the simple substance is then without any perception. For the reasons stated above, it cannot perish; it also cannot subsist without some affection, which is nothing other than its perception. When there is a great multitude of small perceptions in which nothing is distinct, one is stunned, as when one turns continuously in the same direction several times in succession and a vertigo comes that can make one faint and distinguish nothing. Death can put animals in this state for a time.

22. Every present state of a simple substance is naturally a consequence of its preceding state, such that the present is pregnant with the future.

23. Since upon waking from stupor one becomes aware of one's perceptions, one must have had them immediately before, even without being aware of them. A perception can only come naturally from another perception, just as a motion can only come naturally from a motion.

24. If we had nothing distinct, nothing elevated and of finer quality in our perceptions, we would be in a perpetual stupor. This is the condition of bare Monads.

25. Nature has given elevated perceptions to animals by furnishing them with organs that gather several rays of light or several undulations of air, making them more effective through their union. Something similar applies to smell, taste, and touch, and perhaps to many other senses unknown to us.

26. Memory furnishes souls with a kind of sequence that imitates reason, but must be distinguished from it. Animals, having perceived something that struck them and which they have perceived before, expect through memory's representation what was joined to that perception previously, and are led to feelings similar to those they had then. When a stick is shown to dogs, they

remember the pain it caused them and cry and flee.

27. The powerful imagination that strikes and moves them comes either from the greatness or the multitude of preceding perceptions. A strong impression often produces at once the effect of a long habit or many repeated moderate perceptions.

28. Men act like animals insofar as the sequences of their perceptions proceed only by the principle of memory, resembling empirical physicians who have mere practice without theory. We are only empirical in three quarters of our actions. When one expects that day will come tomorrow, one acts empirically, because it has always been so until now. Only the astronomer judges it by reason.

29. Knowledge of necessary and eternal truths is what distinguishes us from animals and gives us Reason and the sciences, raising us to knowledge of ourselves and of God. This is what is called in us the rational Soul, or Mind.

30. It is also by knowledge of necessary truths and their abstractions that we are raised to reflective acts that make us think of what is called the self, and consider that this or that is in us. In thinking of ourselves we think of Being, of Substance, of the simple and the compound, of the immaterial and of God himself, conceiving that what is bounded in us is in him without bounds. These reflective acts furnish the principal objects of our reasoning.

31. Our reasoning is founded on two great principles: that of Contradiction, by virtue of which we judge false what contains a contradiction, and true what is opposed or contradictory to the false.

32. And that of Sufficient Reason, by virtue of which we consider that no fact can be true or existing, no statement true, without a sufficient reason why it is so and not otherwise, though these reasons usually cannot be known to us.

33. There are also two kinds of truths: those of Reasoning and those of Fact. Truths of Reasoning are necessary and their opposite is impossible; Truths of Fact are contingent and their opposite is possible. When a truth is necessary, its reason can be found by

analysis, resolving it into simpler ideas and truths until one reaches primitive ones.

34. This is how, in mathematics, theorems of speculation and canons of practice are reduced by analysis to Definitions, Axioms, and Postulates.

35. There are finally simple ideas of which no definition can be given; there are also axioms and postulates, or in a word, primitive principles, which cannot be proved and need no proof. These are identical propositions whose opposite contains an express contradiction.

36. Sufficient reason must also be found in contingent truths or truths of fact, that is, in the succession of things spread through the universe of creatures, where resolution into particular reasons could proceed to a boundless detail, given the immense variety of natural things and the infinite division of bodies. There are infinitely many figures and movements, present and past, that enter into the efficient cause of my current writing; and there are infinitely many small inclinations and dispositions of my soul, present and past, that enter into its final cause.

37. Since all this detail involves only other prior or more detailed contingencies, each of which requires a similar analysis, no progress is made. The sufficient reason, the ultimate reason, must lie outside the succession or series of these contingencies, however infinite it might be.

38. The ultimate reason of things must therefore be in a necessary substance in which the detail of changes exists only eminently, as in its source. This is what we call God.

39. This substance being a sufficient reason for all this detail, which is also interconnected throughout, there is only one God, and this God suffices.

40. This supreme substance, which is unique, universal, and necessary, having nothing outside it that is independent of it, and being a simple consequence of possible being, must be incapable of limits and must contain as much reality as is possible.

41. It follows that God is absolutely perfect, perfection being nothing other than the magnitude of positive reality taken precisely, setting aside limits in things that have them. Where there are no limits, that is, in God, perfection is absolutely infinite.

42. It also follows that creatures have their perfections from the influence of God, but have their imperfections from their own nature, which is incapable of being without limits. This original imperfection of creatures is evident in the natural inertia of bodies.

43. In God is not only the source of existences but also of essences, insofar as they are real, or of what is real in possibility. The understanding of God is the region of eternal truths, or of the ideas on which they depend. Without him there would be nothing real in possibilities, and not only nothing existing, but nothing possible either.

44. If there is a reality in essences or possibilities, or in eternal truths, this reality must be founded on something existing and actual, and consequently in the existence of the necessary Being, in whom essence includes existence, or in whom it suffices to be possible in order to be actual.

45. God alone, the necessary Being, has this privilege: he must exist if he is possible. Since nothing can prevent the possibility of what contains no limits, no negation, and consequently no contradiction, this alone suffices to know the existence of God a priori. We have also proved it through the reality of eternal truths. And we have proved it a posteriori, since contingent beings exist which can have their ultimate or sufficient reason only in the necessary Being, who has the reason for his existence in himself.

46. One must not imagine, as some have, that eternal truths, being dependent on God, are arbitrary and depend on his will, as Descartes seems to have thought, and later Poiret. This is true only of contingent truths, whose principle is fitness or the choice of the best. Necessary truths depend solely on God's understanding and are its internal object.

47. Thus God alone is the primitive unity, the original simple

substance, of which all created or derivative Monads are productions, arising, so to speak, through continual Fulguration of the Divinity from moment to moment, bounded by the receptivity of the creature, which is essentially limited.

48. In God there is Power, which is the source of everything; then Knowledge, which contains the detail of ideas; and finally Will, which produces changes according to the principle of the best. This corresponds to what, in created Monads, constitutes the subject or base, the perceptive faculty, and the appetitive faculty. But in God these attributes are absolutely infinite and perfect; in created Monads, or Entelechies, they are only imitations, in proportion to the perfection present.

49. A creature is said to act outwardly insofar as it has perfection, and to be acted upon by another insofar as it is imperfect. Action is attributed to a Monad insofar as it has distinct perceptions, and passivity insofar as it has confused ones.

50. One creature is more perfect than another to the extent that one finds in it what serves to explain a priori what occurs in the other, and it is in this sense that we say it acts upon the other.

51. But in simple substances the influence of one Monad on another is only ideal, and can have its effect only through God's intervention. In God's ideas, one Monad reasonably demands that, in regulating others from the beginning of things, God have regard for it. Since a created Monad can have no physical influence on the interior of another, this is the only way one can have dependence on another.

52. This is why, among creatures, actions and passions are mutual. God, comparing two simple substances, finds in each reasons that oblige him to accommodate the other to it. What is active in certain respects is therefore passive from another point of consideration: active insofar as what is known distinctly in it serves to explain what occurs in another; passive insofar as the reason for what occurs in it is found in what is distinctly known in another.

53. Since there are infinitely many possible universes in God's ideas,

and only one can exist, there must be a sufficient reason for God's choice, which determines him toward one rather than another.

54. This reason can only be found in fitness, or in the degrees of perfection these worlds contain. Each possible has a claim to existence in proportion to the perfection it envelops.

55. This is the cause of the existence of the best, which God's wisdom makes him know, his goodness makes him choose, and his power makes him produce.

56. This interconnection and accommodation of all created things to each, and of each to all others, means that each simple substance has relations that express all the others, and is consequently a perpetual living mirror of the universe.

57. Just as the same city viewed from different sides appears entirely different and is, so to speak, perspectivally multiplied, so it happens that through the infinite multitude of simple substances there are as many different universes as there are Monads, yet these are only perspectives on a single universe, according to each Monad's different point of view.

58. This is the means of obtaining as much variety as possible with the greatest possible order, that is, of obtaining as much perfection as possible.

59. Only this hypothesis, which I venture to say has been demonstrated, properly elevates the greatness of God. Bayle recognized this in his Dictionary (article Rorarius), where he raised objections and was even tempted to believe I was giving too much to God, more than is possible. But he could allege no reason why this universal harmony, by which each substance expresses all others exactly through its relations with them, should be impossible.

60. One sees in what has been said the a priori reasons why things could not be otherwise. God, in regulating the whole, had regard for each part, and particularly for each Monad, whose nature being representative, nothing could limit it to representing only part of things. Though this representation is confused in the detail of the whole universe and can be distinct in only a small part of

things, namely those nearest or greatest relative to each Monad, for otherwise each Monad would be a Divinity. The Monads are limited not in their object, but in the modification of their knowledge of it. They all tend confusedly toward the infinite, toward the whole, but are limited and distinguished by the degrees of their distinct perceptions.

61. Compounds accord in this respect with simples. Since everything is full, which makes all matter connected, and since in the plenum every motion produces some effect on distant bodies in proportion to the distance, so that each body is affected not only by those touching it but also feels, in some fashion, all that happens to them, and through them feels those touching the first, and so on: this communication extends to any distance whatever. Every body feels everything that happens in the universe, such that one who sees everything could read in each body what is happening everywhere, and even what has happened and will happen, observing in the present what is distant in time and space. Sumpnoia panta, said Hippocrates: all things conspire. But a Soul can read in itself only what is distinctly represented there; it cannot unfold all its folds at once, for they go to infinity.

62. Thus, though each created Monad represents the whole universe, it represents more distinctly the body to which it is particularly assigned, and of which it constitutes the Entelechy. As this body expresses the whole universe through the interconnection of all matter in the plenum, the soul also represents the whole universe in representing this body, which belongs to it in a particular way.

63. The body belonging to a Monad, which is its Entelechy or Soul, constitutes with the Entelechy what can be called a living thing, and with the soul what is called an animal. The body of a living thing or animal is always organic. Since every Monad is a mirror of the universe in its own way, and since the universe is ordered in perfect order, there must also be an order in the representing, that is, in the soul's perceptions, and consequently in the body, according to which the universe is represented in it.

64. Every organic body of a living thing is a kind of divine machine, a natural automaton infinitely surpassing all artificial automata. A machine made by human art is not a machine in each of its parts.

The tooth of a brass wheel has parts or fragments that are no longer anything artificial and bear no mark of the machine relative to its intended use. The machines of nature, living bodies, are still machines in their smallest parts, to infinity. This is what makes the difference between Nature and Art, between divine art and ours.

65. The author of nature could practice this divine and infinitely marvelous artifice because each portion of matter is not only infinitely divisible, as the ancients recognized, but also actually subdivided without end, each part into parts, each of which has its own motion. Otherwise it would be impossible for each portion of matter to express the whole universe.

66. One sees from this that there is a world of creatures, living things, animals, Entelechies, souls in the smallest part of matter.

67. Each portion of matter can be conceived as a garden full of plants, a pond full of fish. But every branch of the plant, every member of the animal, every drop of its fluids is again such a garden or such a pond.

68. Though the earth and air interspersed among the plants of the garden, or the water interspersed among the fish of the pond, are neither plants nor fish, they still contain them, but usually of a subtlety imperceptible to us.

69. There is nothing uncultivated, sterile, or dead in the universe, no chaos, no confusion, except in appearance, much as it might appear in a pond viewed from a distance at which one sees only confused movement and, so to speak, a swarming of fish, without making out the fish themselves.

70. Each living body has a dominant Entelechy, which is the soul in the animal. The members of this living body are filled with other living things, plants, animals, each of which has its own Entelechy, its own dominant soul.

71. One must not imagine, as some have, who have misunderstood my thought, that each soul has a mass or portion of matter proper and assigned to it forever, and that it therefore possesses inferior living things perpetually in its service. All bodies are in perpetual flux, like rivers. Parts enter and leave continuously.

72. The soul changes its body only little by little and by degrees, so it is never stripped all at once of all its organs. In animals there is often metamorphosis, but never metempsychosis or transmigration of Souls. There are no completely separate Souls, no spirits without bodies. God alone is entirely detached.

73. This is also why there is never either complete generation or strict death consisting in the separation of the soul. What we call Generations are developments and growths; what we call deaths are envelopments and diminutions.

74. Philosophers were greatly troubled by the origin of forms, Entelechies, or Souls. Today, when careful researches on plants, insects, and animals have shown that organic bodies in nature are never produced from chaos or putrefaction but always from seeds in which some preformation existed, it has been judged that not only the organic body but also a soul in this body, and in short the animal itself, existed before conception, and that through conception the animal was only disposed to a great transformation to become an animal of another species. We see something similar outside generation, as when worms become flies and caterpillars become butterflies.

75. Animals that are raised by conception to the degree of larger animals may be called spermatic. Those that remain in their species, that is, the majority, are born, multiply, and are destroyed like the larger animals. Only a small number of the elect passes to a greater theater.

76. This was only half the truth. I have therefore judged that if the animal never begins naturally, it does not end naturally either, and that not only will there be no generation but no complete destruction, no death in the strict sense. These reasonings made a posteriori from experience accord perfectly with my principles deduced a priori as stated above.

77. One can therefore say that not only the soul, mirror of an indestructible universe, is indestructible, but the animal itself, though its machine often perishes in part and sheds or takes on organic remains.

78. These principles have given me the means to explain naturally the union, or the conformity, of the soul and the organic body. The soul follows its own laws, the body follows its own; and they meet by virtue of the pre-established harmony between all substances, since they are all representations of one and the same universe.

79. Souls act according to the laws of final causes through appetitions, ends, and means. Bodies act according to the laws of efficient causes or motions. The two kingdoms, that of efficient causes and that of final causes, are in harmony with each other.

80. Descartes recognized that souls cannot give force to bodies, since the same quantity of force is always present in matter. He believed, however, that the soul could change the direction of bodies. This was because the law of nature that also conserves the same total direction in matter was not yet known in his time. Had he noticed it, he would have arrived at my System of Pre-established Harmony.

81. This System makes it so that bodies act as if (by an impossibility) there were no Souls; and Souls act as if there were no bodies; and both act as if one were influencing the other.

82. As for Minds or rational Souls, though at the foundation I find the same thing in all living things and animals, as we have said—that the animal and Soul begin only with the world and do not end before the world—rational Animals are distinctive in this: their spermatic small animals, while they are only that, have only ordinary or sensitive souls. But as soon as those who are, so to speak, elect arrive through actual conception at human nature, their sensitive souls are elevated to the degree of reason and to the prerogative of Minds.

83. Among other differences between ordinary Souls and Minds, there is this: souls in general are living mirrors or images of the universe of creatures, but Minds are also images of the Divinity itself, of the Author of nature, capable of knowing the system of the universe and of imitating something of it through architectural samplings. Each Mind is like a small divinity in its own domain.

84. This is why Minds are capable of entering into a kind of Society

with God, and God is to them not only what an inventor is to his machine, as he is to other creatures, but also what a Prince is to his subjects, and even a father to his children.

85. From this it is easy to conclude that the assembly of all Minds must compose the City of God, that is, the most perfect possible State under the most perfect of Monarchs.

86. This City of God, this truly universal Monarchy, is a Moral World within the Natural World, and is what is most elevated and most divine in the works of God. It is in it that the glory of God truly consists, for there would be none if his greatness and goodness were not known and admired by Minds. It is also in relation to this divine City that he properly has Goodness, while his wisdom and power are manifest everywhere.

87. As we have established above a perfect Harmony between the two natural kingdoms, that of Efficient Causes and that of Final Causes, we must note here another harmony: between the Physical kingdom of Nature and the Moral kingdom of Grace, that is, between God considered as Architect of the machine of the universe and God considered as Monarch of the divine City of Minds.

88. This Harmony makes things lead to Grace by the very ways of Nature, and means that this globe, for example, must be destroyed and renewed by natural means at the moments required by the governance of Minds, for the punishment of some and the reward of others.

89. God as Architect satisfies in all things God as Legislator. Sins must therefore carry their punishment with them through the order of nature, by virtue of the mechanical structure of things. Likewise, beautiful actions will draw their rewards to themselves by mechanical means in relation to bodies, though this cannot and should not always happen immediately.

90. Finally, under this perfect governance there would be no good action without reward, no bad one without punishment, and everything must turn to the good of the good: that is, of those who are not discontented in this great State, who trust in Providence

after having done their duty, and who love and imitate, as is fitting, the Author of all good, finding pleasure in the contemplation of his perfections in accordance with the nature of true pure love, which takes pleasure in the happiness of what it loves. This is what makes wise and virtuous persons work for all that appears consistent with the presumptive or antecedent will of God, while remaining content with what God actually brings about through his secret, consequent, and decisive will, recognizing that if we could sufficiently understand the order of the universe, we would find that it surpasses all the wishes of the wisest, and that it is impossible to make it better than it is, not only for the whole in general, but for ourselves in particular, if we are attached, as we should be, to the Author of all, not only as Architect and efficient cause of our being, but also as our Master and the final cause who must constitute the entire aim of our will, and who alone can make our happiness.

— End —